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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,987	10/02/2003	Eung Chul Park	YHK-0121	7800
34610	7590	08/08/2005	EXAMINER	
FLESHNER & KIM, LLP			ROY, SIKHA	
P.O. BOX 221200			ART UNIT	
CHANTILLY, VA 20153			PAPER NUMBER	
			2879	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/675,987	<b>Applicant(s)</b> CHUL PARK, EUNG	
	<b>Examiner</b> Sikha Roy	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 5-10, 13, 14, 23, 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12, 15-22, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The Preliminary Amendment filed December 30, 2003 has been entered and is acknowledged.

#### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-4, 11, 12, 15-22, 25 and 26 in the reply filed on July 25, 2005 is acknowledged. The traversal is on the ground(s) that the search and examination of the entire application could be made without serious burden. This is not found persuasive because the two groups require divergent searches as evidenced by their different classification. The search criteria used for the device claims cannot be used for the method claims since the method claims comprise different features or limitations for forming the protective film.

Accordingly the requirement is still deemed proper and is therefore made FINAL.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

The drawing in Fig. 6 is objected to because the ordinate of the graph showing different jitter values is missing the label JITTER ( $\mu$ s). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should

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include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

Page 6 line 31 'a environment' should be replaced by -- an environment-- .

The examiner notes that the concentration of silicon, calcium, iron, aluminum, nickel, sodium and potassium in the protective film although expressed in unit of ppm in the disclosure is actually 'wt. ppm' (as shown in abscissa label of Fig. 5).

The disclosure (page 7 lines 2-4, page 8 line 10, page 13 line 23) of Xe discharge gas containing xenon more than 5% does not include any unit of

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measurement of the concentration of xenon. The composition of gas can be measured in volume percentage, atomic % or weight %.

Appropriate corrections are required.

### ***Claim Objections***

Claim 20 is objected to because of the following informalities: The limitation reciting 'discharge gas contains 5% Xenon or more' does not include the unit of the concentration of xenon gas. For continuing examination, 'the discharge gas containing 5 volume % or more xenon gas' is considered.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 11, 12, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000063171 to Takenouchi et al.

Regarding claim 1 Takenouchi discloses (English translation sections [0001], [0010]) a protective film for plasma display panel comprising magnesium oxide (MgO) and 150 ppm or less of silicon.

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Regarding claim 2 Takenouchi discloses the protective film comprises silicon 150 ppm or less which is within the range claimed.

Regarding claim 3 Takenouchi discloses (English translation section [0011]) the protective film further comprises 200 ppm or less of calcium (Ca), 50 ppm or less of iron (Fe) and 150 ppm or less of aluminum (Al). The examiner notes that content of calcium less than 200 ppm as disclosed by Takenouchi includes the values less than 50 ppm as claimed.

Regarding claim 11, it is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, it is the position of the examiner that the functional limitation 'silicon compensates for secondary electron emission characteristics deteriorated by crystalline defects and impurities' is taught by Takenouchi under the principles of functional inherency.

Regarding claim 12 it is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing

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novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, it is the position of the examiner that the functional limitation 'silicon reduces jitter value within the plasma display panel during address' is taught by Takenouchi under the principles of functional inherency.

Referring to claims 21 and 22 Takenouchi discloses the protective film further comprises nickel (Ni) less than 10 ppm, sodium (Na) less than 20 ppm and potassium (K) less than 20 ppm. The examiner notes here although upper limits of the contents of Ni, Na and K as disclosed by Takenouchi are higher but these ranges certainly include the values of claimed concentrations of Ni, Na and K.

Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,242,864 to Nakahara et al.

Regarding claim 15 Nakahara discloses (Fig. 4 column 3 lines 49-62 column 8 lines 14-30) an AC type plasma display panel comprising an upper substrate 11, a lower substrate 21 across from the upper substrate, a plurality of electrodes X and Y on the upper substrate, a protective film 18 formed on the upper substrate layer, a plurality of address electrodes A on the lower substrate, wherein the protective film comprises magnesium oxide and silicon.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 – 20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) and further in view of JP 2000063171 to Takenouchi et al.

Regarding claim 15 AAPA discloses (Fig. 1 specification page 1 lines 24-32 page 2 lines 1-21) a plasma display panel comprising an upper substrate, a lower substrate across from the upper substrate, a plurality of electrodes Y, Z on the upper substrate, a protective film (6 and 7) of magnesium oxide on the upper substrate layer, a plurality of address electrodes X on the lower substrate.

Claim 15 differs from AAPA in that AAPA does not exemplify the protective film comprising silicon.

Takenouchi in analogous art of AC plasma display discloses (English translation sections [0001], [0010]) a protective film for plasma display panel comprising magnesium oxide (MgO) and silicon. Takenouchi further teaches that addition of impurity such as silicon in the protective film improves its uniform film formation property and prevents generation of splash and hence improves the operation of the display device.



Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include silicon with magnesium oxide of the protective film of AAPA as taught by Takenouchi for improving its uniform film formation property and preventing generation of splash in the protective film of the device.

Regarding claim 16 Takenouchi discloses the protective film comprises 150 ppm of silicon, the concentration of 150 ppm is within (at most 5000 ppm of silicon) the claimed upper limit.

Regarding claim 17 Takenouchi discloses the protective film comprises 150 ppm of silicon, this concentration being within (at most 500ppm of silicon) the claimed upper limit.

Referring to claim 18 Takenouchi discloses the protective film comprises silicon 150 ppm or less which is within the claimed range.

Regarding claim 19 Takenouchi discloses (English translation section [0011]) the protective film further comprises 200 ppm or less of calcium (Ca), 50 ppm or less of iron (Fe) and 150 ppm or less of aluminum (Al). The examiner notes that content of calcium less than 200ppm includes the values less than 50 ppm as claimed.

Regarding claim 20 AAPA discloses (page 7 lines 1-10) the plasma display panel comprises a discharge gas between the upper and lower substrates wherein the discharge gas contains more than 5% by volume of xenon resulting in higher brightness of the display panel.

Regarding claim 25 Takenouchi discloses the protective film further comprises nickel (Ni) less than 10 ppm, sodium (Na) less than 20 ppm and potassium (K) less than

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20 ppm. The examiner notes here although upper limits of the contents of Ni, Na and K as disclosed by Takenouchi are higher but these ranges certainly include the values of claimed concentration of Ni, Na and K.

Regarding claim 26 AAPA discloses (Fig. 1) the protective film further comprises an upper dielectric layer 6 on the upper substrate.

### ***Allowable Subject Matter***

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 4 prior art of record neither teaches nor renders obvious the protective film of a plasma display panel comprising magnesium oxide having about 300 ppm of silicon.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,525,471 to Bachman et al. discloses plasma display panel with protective layer having more than 7% by volume of xenon gas. U.S. Patent 6,879,107 to Hirano et al. and JP 2000294153 A to Daito Ryoichi disclose the protective layer of MgO of plasma display panel comprising silicon.

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Sikha Roy*

Sikha Roy  
Patent Examiner  
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